United States Environmental Protection Agency
Region 5

January 19, 1999 DRE-9J

MEMORANDUM:

SUBJECT: USS Lead Canal Remediation

FROM: Michael J. Mikulka
Environmental Engineer

TO: Mirtha Capiro
Project Manager

Mirtha, I have reviewed the documents you sent me related to the above. I provided comments to you on the Baum letter separately on January 15, 1999. This memo is for discussion purposes only and outlines comments I have on the initial work plan and the December 4, 1998, letter you sent, and also the January 11, 1999, response letter from USS Lead to Bob Springer. I am available to discuss these comments with you at a convenient time.

First, with respect to the initial plan outlined in Entact's September 21, 1998, letter.

1. Entact proposes to install sheetpile walls as an initial step in remediation. This may be an unnecessary step in order to effectuate the remediation proposed. The most appropriate means to remove the in-place pollutants would be by modified clam-shell dredge with the equipment located on-shore. This type of equipment minimizes entrainment of additional water during the dredging process, thereby speeding dewatering. Further, the dredge operator should allow several second for excess water to drain off before moving the material to the next step, whether that be AOC or truck or rolloff box. If the complete area is to be remediated, the excavation process would simply proceed until the desired elevation is reached. At that point, clean fill can be deposited to cover any remaining material.

2. Entact proposes to dewater the individual cells and discharge the water to adjacent cells. This is probably not technically feasible, as the sheetpile walls are not designed to hold back water, and secondly, the hydraulic gradient at the site will probably prevent that from being effective. Entact should provide calculations to support the feasibility of such a proposal. In addition, the addition of water to the adjacent cells will exacerbate problem 1. This may necessitate the receipt of a

discharge permit, which seems unlikely in light of the chemical composition of the sediment.

3. Other options should be explored with respect to remedial alternatives, including partial excavation with backfill, and remediation of only portions of the canal, while filling in the rest. It is my understanding from discussions and past correspondence with the natural resource trustees that there was some desire to hydraulically link the canal and the wetland/open water area just created to the east. Perhaps an option could be to only remediate the canal up to a point where the open water is located (about the lower 1/3), and simply fill in the rest. There is no indication that this man-made canal should be maintained as a canal rather than filling it in. This should be discussed further with the trustees prior to meeting with USS Lead.

4. One item not addressed is the remediation of the sediments shown to have PCB levels above 50 ppm. It is not acceptable to remove those materials and deposit them in the CAMU absent a separate TSCA application and RA approval of an alternate disposal site than a PCB incinerator or landfill.

5. Rather than install an earthen dam at the mouth of the canal, a sheetpile wall should be considered. This can probably be done more cheaply, and can be driven through the existing sediment rather than placed over it as would be required for an earthen dam. It would also be easier to remove, and would allow a flow of water through the wall, but not sediment.

<u>Original letter sent to USS Lead dated December 4, 1998</u>

1. Comments on the dewatering were addressed above.

2. Regarding the goal of the remediation, I would agree that the order as written does not endorse a 5000 mg/kg lead level as the basis for remediation. Since this is an ISM, and new information indicates that petroleum hydrocarbons are of concern, the appropriate cleanup level should be to clean the area up until clean material is encountered. As such, a physical standard such as a target elevation can be established. If this means leaving lead at levels near the previously approved 500 ppm cleanup goal for the rest of the site, then that should be acceptable. The numbers is the IDEM December 2, 1998, letter should be viewed as targets not requirements. If we are too far off from those numbers, an analysis should be made of inserting clean fill over the remaining contamination, as was endorsed as part of the restoration for the wetland areas to the east. The material subsequently buried will not be bio-available, so this should be an acceptable final remedy.

3. I do not agree that there needs to be any monitoring of the water, nor that the water discharged will percolate into the groundwater, provided there is a barrier wall constructed at the mouth of the canal as per USS Lead's proposal. Since there is an

exemption for return water from dredging operations from requirements for an NPDES permit, this is an unnecessary expense. We know the constituents in the water, as they are the same constituents in the sediment. Since the water will not be discharged to the River, all pollutants will remain in place or be redredged.

4. You may want to consider the potential for air emissions when the material is dredged. While corrective action waste is exempt from Subpart CC, the basis for that exemption is that all potential releases would be evaluated for controls prior a decision being made that no controls were needed. At another facility, remediation waste was excavated into a rolloff box, quicklime added, and air emissions routed to a carbon canister through a closed vent system jerry-rigged for the specific purpose. There are likely to be air emissions during remediation, based on the character of the waste, particularly if a chemical is used which results in an exothermic reaction, such as quicklime.

5. I would suggest that any stockpiling of material occur in rolloff boxes rather than on the ground. This will facilitate movement to the CAMU.

6. There is no potential for piping beneath the sheet pile if the material is excavated without dewatering.

7. Any revegetation plan should be included in the work plan and not as part of a separate document.

8. Based on the testing results, there may be migration of pollutants from the Grand Calumet River to the canal. As such, there should not be a requirement for excavation of sediments at the mouth of the canal prior to the placement of the dam across the mouth. Further, there is no basis to require the removal of the dam or a schedule to remove the dam as part of an ISM. This dam may not be able to be removed for 20 years. See also comment 5 above.

9. The problem with the berm in the river is reflected in the comments made by IDEM. This cannot be avoided, so a decision should simply be made as to the appropriate elevation for the top of the berm or wall. I would suggest it be 1-2 feet higher than the top of the sediments at that point.

<u>USS Lead letter dated January 11, 1999</u>

1. In the background section of the letter, USS Lead states that residual contamination outside the RCRA corrective action management unit would be addressed through IDEM's partial agreed order. I reviewed IDEM's order and this appears to be covered in IDEM's order at paragraph's 4-7. Off site contamination is not covered, as stated in paragraph 10.

2. The discussion section appears to refer to the 5000 ppm action

level as applicable to the canal. The order should be checked to determine the applicability of this action level. It was clear that the 5000 ppm action level applied to soils. Typically, the same action level would not be applied to soils as sediments, as the ecological pathways would not be the same.

3. USS Lead should be asked to support its contention that funds are not available for remediation of the lower 7/8 of the canal by providing cost estimates for all remaining work and an accounting of funds expended to date and to be expended.

I am available to discuss these comments with you, and am willing to participate in the planned meeting with USS Lead, when scheduled. I am unavailable February 3-4, 1999.